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Case Report

A case of primary skeletal muscle lymphoma mimicking cellulitis

Alok Sahu*

Department of Orthopedics, St. Stephens Hospital, New Delhi, India

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***Correspondence:**
Dr. Alok Sahu,
E-mail: drsahualok@gmail.com

ABSTRACT

Primary skeletal muscle lymphoma is a rare entity. Their presentation can be easily confused with a wide variety of inflammatory conditions, neoplasia as well as infectious diseases. We came across a 65-year-old lady who presented to us with complains of pain and swelling in the right thigh, leg and foot and fever-on and off for 20 days. She was initially managed elsewhere on the line of cellulitis with incision and drainage of right leg 15 days back but there had been no clinical improvement. We took her detailed history and examined her thoroughly. Relevant blood investigations were sent. However, the clinical examination findings and history were suggestive of an infective cause, blood investigations were suggestive of an acute inflammatory pathology, whereas radiological investigations (NCCT and X-ray) and cytological investigations (FNAC) which were performed at the previous place of treatment were inconclusive. We then did a CE-MRI of the right lower limb which showed centrally necrotic, enhancing mass lesion involving peroneal muscles with multiple enlarged inguinal and popliteal lymph nodes. Based on this finding, biopsy was performed and specimen was sent for histopathological examination which revealed "malignant small round cell tumor". Immunohistochemistry was then done and tumor cells were found to be positive for vimentin, LCA, CD20 and negative for PANCK and CD3. Based on the above findings it was diagnosed as "non-hodgkin's lymphoma (NHL) B-cell type" of right leg. Considering the confusing clinical presentation of this entity and inconclusiveness of blood and basic radiological investigations, lesions of extremities presenting with features of cellulitis must be carefully assessed.

Keywords: Primary skeletal muscle lymphoma, NHL of skeletal muscle, Extra-nodal lymphoma

INTRODUCTION

Primary skeletal muscle lymphoma is a rare entity. Only 1.5% of NHL are primary skeletal muscle lymphoma.[1] Zucca et al in their study classify lymphomas to be extra-nodal when after routine staging procedures, there is no or minor nodal involvement with a clinically dominant extra-nodal component.[2] Clinical features at presentation depend largely on the site where the pathology is localized.[3] Their presentation can be easily confused with a wide variety of inflammatory conditions, more common neoplasia as well as infectious diseases.

We herein present a rare case of primary skeletal muscle NHL with clinical features mimicking cellulitis and also elucidate the associated clinical, radiological and pathological findings and a review of the relevant literature.

CASE REPORT

A 65-year-old female patient came to the outpatient department with complains of pain and swelling in the right thigh, leg and foot for 20 days. She had fever for 20 days on and off. She was initially managed elsewhere with incision and drainage of right leg 15 days back but there had been no clinical improvement for which the patient then came to us for further management. There was no history of any other comorbid illness.

On examining her clinically, she was conscious, oriented and febrile. There was swelling, redness and tenderness present over right thigh, leg and foot with skin induration present over right thigh. A 2 cm long incised wound was present over proximal third of right leg over the antero-lateral aspect which had no active discharge. Right side inguinal lymph nodes were enlarged.

The range of motion of the right knee was full and painless. The distal pulses were palpable and there was no sensory deficit.

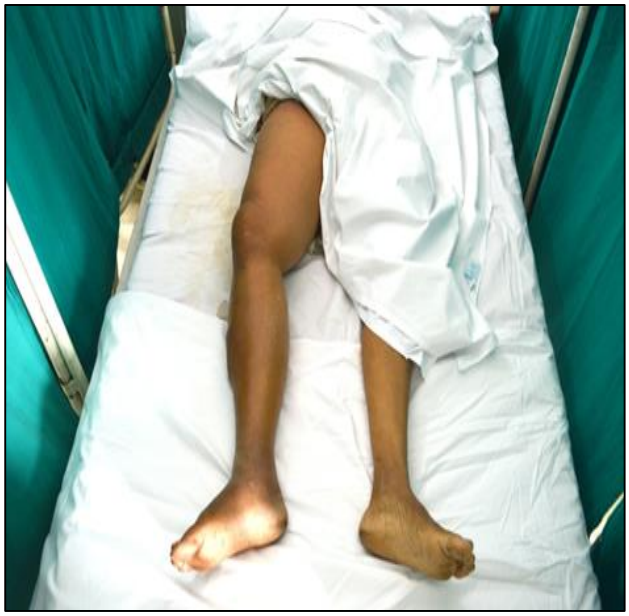

Figure 1: Clinical picture showing swelling of right foot, leg and thigh.

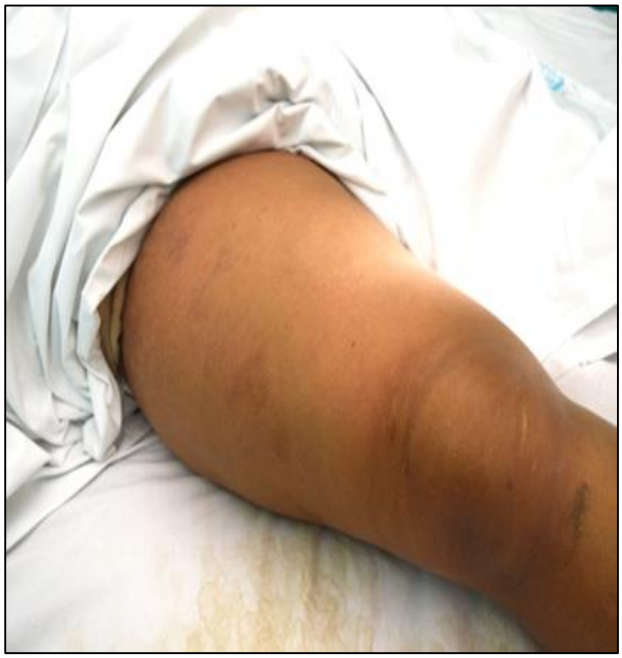

Figure 2: Clinical picture showing induration of the thigh.

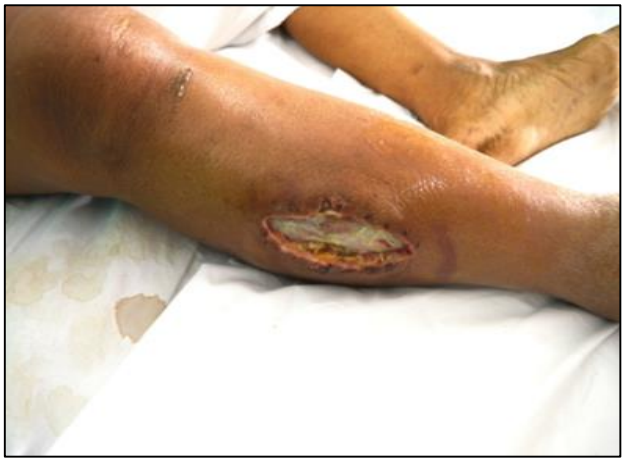

Figure 3: Clinical picture showing the wound after incision and drainage procedure on the anterolateral aspect of the right leg.

Her blood investigations reports were as follows-CBC-Normal (TLC-11000); ESR-130; CRP-43.73. The Kidney functions, renal functions, liver functions test and blood sugar profile were normal. Viral serology reports were negative.

X-ray of the leg showed no significant findings.

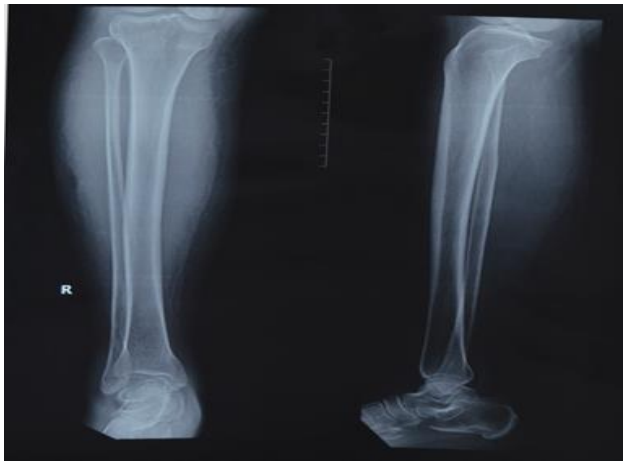

Figure 4: X ray of the right leg showing no relevant findings.

It was found that NCCT of right leg and FNAC from right leg was done earlier at the place of previous treatment. However, NCCT report showed only senile osteopenia and FNAC report said “aspirate shows adipose tissue with few RBCs”.

In a nutshell, the blood investigations were suggestive of an acute inflammatory pathology, the clinical examination findings and history were suggestive of an infective cause whereas radiological investigations (NCCT and X ray) and cytological investigations were inconclusive. Due to the above confusing picture of the whole scenario, USG of the right leg was done and the findings were reported as

cellulitis with intramuscular collection in the antero-lateral aspect of right leg with septations and associated with right inguinal lymphadenitis. The right lower limb arterial and venous doppler showed normal study.

Following USG study report, IV antibiotics was started and incision and drainage of the right leg was done. Intra-operatively there was profuse bleeding without any pus collection with muscles in the anterior aspect of right leg was necrotic and fibrotic in appearance. Specimen was sent for histopathological examination. But the patient still did not show any signs of improvement clinically. Hence USG and venous and arterial doppler were repeated and CE-MRI of right lower limb was done while histopathology report was awaited.

Now, the USG and venous and arterial doppler report showed-monophasic flow in peripheral right lower limb arteries with absent diastolic flow in posterior tibial artery with cellulitis and myositis involving below knee region with extensive subcutaneous edema involving right lower limb.

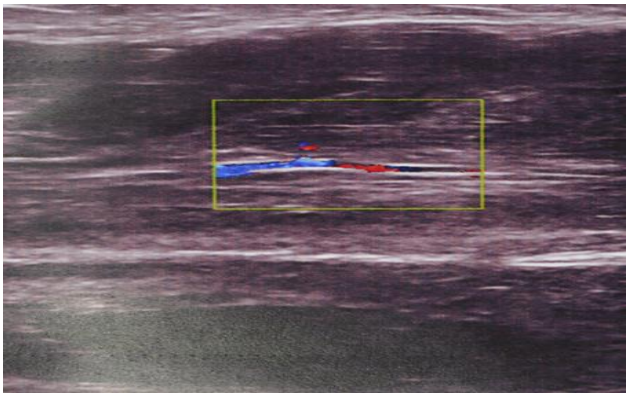

Figure 5: USG doppler image of right lower limb.

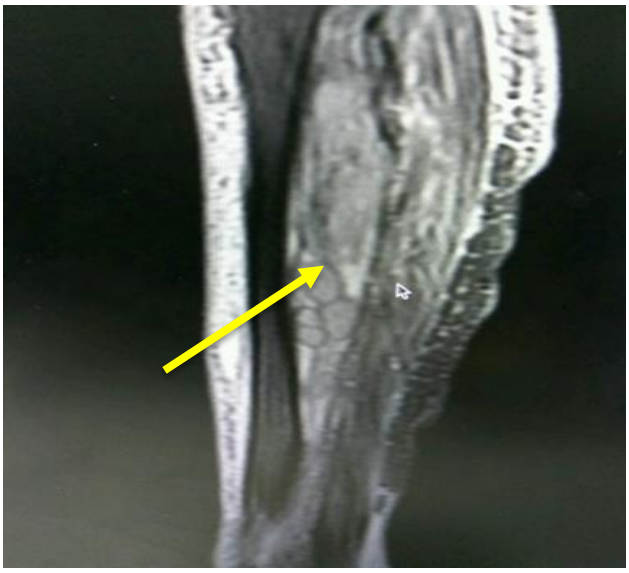

Figure 6: Sagittal cut-right leg shows enhancing mass lesion involving peroneal muscles.

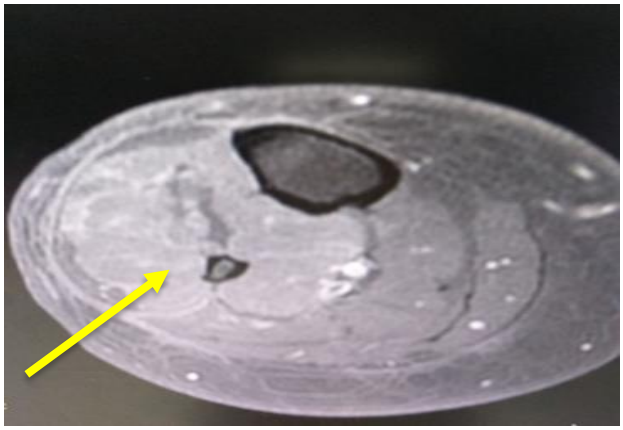

Figure 7: Axial cut-right leg shows enhancing mass lesion involving peroneal muscles.

CE-MRI right lower limb showed centrally necrotic, enhancing mass lesion involving peroneal muscles with multiple enlarged inguinal and popliteal lymph nodes.

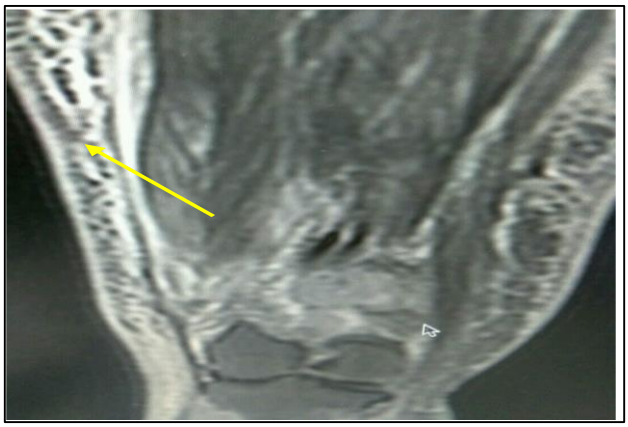

Figure 8: Coronal cut-right thigh showing subcutaneous edema.

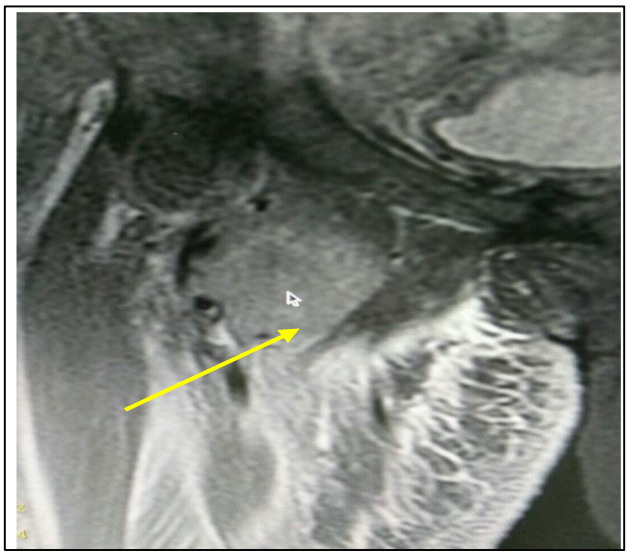

Figure 9: Coronal cut-inguinal region showing enlarged lymph nodes.

The histopathology report came to be malignant small round cell tumor. To reach a single diagnosis immunohistochemistry was done and the tumor cells were found to be positive for vimentin, LCA, CD20 and negative for PANCK and CD3. Based on the above findings it was diagnosed as NHL B-cell type right leg.

She was referred to the higher center for oncological management where she was managed with a combination of chemotherapy (CHOP regimen) and radiotherapy. She had shown signs of improvement post treatment on 6 months follow-up.

DISCUSSION

Primary skeletal muscle lymphoma is rare. They constitute only a small fraction of extra-nodal cases of NHL. At least 1/4th of NHL arise from tissue other than lymph nodes and even from site which normally contain no lymphoid.[3] Gastro-intestinal localizations represent the most common form of extra-nodal lymphomas.[3] Other frequent and clinically important sites include CNS, skin, testis, thyroid, salivary gland, liver, bone and lungs.[3] However, extra-nodal lymphomas can rise in almost any organ.[4] Generally, patients with extra-nodal lymphomas tend to less often present "B" symptoms (fever, night sweat, weight loss) than do patients suffering from lymphomas arising in the nodal regions.[3] DLBCL is a common NHL, with extra nodal manifestations and it's unusual presentation such as arising primarily from soft tissue of the right thigh has been reported in literature.[5] Primary lymphoma of the muscle has been associated with a poor prognosis and usually has diffuse large cell histologic features.[1] Although, there are only a few cases reported as primary skeletal lymphomas, literature suggests that they respond well to chemoradiation (Bourdeanu et al) and combined surgical ablation and chemotherapy (Marotta et al).[6,7] Cases with multiple skeletal muscle T cell lymphoma is not unheard of.[8]

CONCLUSION

To conclude, primary musculo-skeletal NHL is a rare presentation. They can be easily confused with a wide variety of inflammatory conditions, more common neoplasia as well as infectious diseases. Definitive diagnosis requires an open biopsy and histopathological examination. Treatment uses combination of chemotherapy (CHOP regimen-M/C), radiotherapy and surgical ablation. Hence, lesions of extremities presenting with features of cellulitis must be carefully assessed.

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